

Registration No. 333-168667  
Registration No. 333-190400  
Registration No. 333-207971  
Registration No. 333-213109  
Registration No. 333-219785  
Registration No. 333-226834  
Registration No. 333-232981  
Registration No. 333-266680  
Registration No. 333-269611

---

---

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

---

**Post-Effective Amendment No. 3 to Registration Statement on Form S-8 (Registration No. 333-168667)**  
**Post-Effective Amendment No. 2 to Registration Statement on Form S-8 (Registration No. 333-190400)**  
**Post-Effective Amendment No. 2 to Registration Statement on Form S-8 (Registration No. 333-207971)**  
**Post-Effective Amendment No. 2 to Registration Statement on Form S-8 (Registration No. 333-213109)**  
**Post-Effective Amendment No. 2 to Registration Statement on Form S-8 (Registration No. 333-219785)**  
**Post-Effective Amendment No. 2 to Registration Statement on Form S-8 (Registration No. 333-226834)**  
**Post-Effective Amendment No. 2 to Registration Statement on Form S-8 (Registration No. 333-232981)**  
**Post-Effective Amendment No. 2 to Registration Statement on Form S-8 (Registration No. 333-266680)**  
**Post-Effective Amendment No. 2 to Registration Statement on Form S-8 (Registration No. 333-269611)**

*UNDER  
THE SECURITIES ACT OF 1933*

---

**ACADIA PHARMACEUTICALS INC.**  
(Exact Name of Registrant as Specified in Its Charter)

---

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**06-1376651**  
(I.R.S. Employer  
Identification No.)

**12830 El Camino Real, Suite 400  
San Diego, CA 92130  
(858) 558-2871**  
(Address of Principal Executive Offices, Including Zip Code)

**Acadia Pharmaceuticals Inc.  
2010 Equity Incentive Plan  
2023 Inducement Plan**  
(Full title of the plan)

**Jennifer J. Rhodes**  
**Executive Vice President, Chief Legal Officer & Secretary**  
**Acadia Pharmaceuticals Inc.**  
**12830 El Camino Real, Suite 400**  
**San Diego, CA 92130**  
(Name and Address of Agent for Service)

**(858) 558-2871**  
(Telephone number, including area code, of agent for service)

*Copies to:*

**Carlos Ramirez, Esq.**  
**Cooley LLP**  
**10265 Science Center Drive**  
**San Diego, CA 92121-1117**  
**(858) 550-6000**

---

company” in Rule 12b-2 of the Exchange Act:

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

---

---

## EXPLANATORY NOTE

Acadia Pharmaceuticals Inc. (the “Registrant”) hereby amends its registration statements on Form S-8 (File Nos. 333-168667, 333-190400, 333-207971, 333-213109, 333-219785, 333-226834, 333-232981, 333-266680 and 333-269611) (collectively, the “Registration Statements”) by filing this Post-Effective Amendment to the Registration Statements (this “Post-Effective Amendment”). The Registrant previously amended the Registration Statements by filing post-effective amendments to the Registration Statements with the U.S. Securities and Exchange Commission on May 29, 2024 (such post-effective amendments, the “Prior Amendments”) to reflect that the Acadia Pharmaceuticals Inc. 2010 Equity Incentive Plan (the “2010 Plan”) and the Acadia Pharmaceuticals Inc. 2023 Inducement Plan (the “Inducement Plan”) were both replaced by the Acadia Pharmaceuticals Inc. 2024 Equity Incentive Plan (the “2024 Plan”).

The Registrant is filing this Post-Effective Amendment to (i) correct an error in the maximum number of shares of the Registrant’s common stock that may be issued pursuant to the 2024 Plan as described in the Prior Amendments, (ii) clarify the disclosure accompanying such maximum number and (iii) file a new Exhibit 5.1 (clauses (i), (ii) and (iii) together, the “Modifications”). Except as revised to make the Modifications, this Post-Effective Amendment does not modify or update the previously filed Registration Statements, as modified by the Prior Amendments, and all other items of the Registration Statements, as modified by the Prior Amendments, are incorporated herein by reference without change. The new Exhibit 5.1 is filed herewith as Exhibit 5.1. No additional shares of the Registrant’s common stock are being registered by this Post-Effective Amendment, and registration fees were paid upon filing of the original Registration Statements.

The Modifications include deleting the second paragraph under the heading “Explanatory Note” in the Prior Amendments in its entirety and replacing that paragraph with the following:

On May 29, 2024 (the “Effective Date”), the Registrant’s stockholders approved the 2024 Plan, which is a successor to and continuation of the 2010 Plan. No additional awards will be granted under the 2010 Plan or the Inducement Plan. Subject to the effect of the “fungible share counting” described below, as of the Effective Date, the maximum number of shares of the Registrant’s common stock that may be issued pursuant to the 2024 Plan will not exceed 38,655,178, which number is the sum of (i) 7,018,288 new shares, plus, (ii) 31,636,890 shares consisting of (1) the number of shares available for the grant of new awards under the 2010 Plan and Inducement Plan as of immediately prior to the Effective Date and (2) shares of common stock subject to a 2010 Plan award or Inducement Plan award that following the Effective Date: (a) are not issued because such 2010 Plan award or Inducement Plan award or any portion thereof expires or otherwise terminates without all of the shares covered by such 2010 Plan award or Inducement Plan award having been issued; (b) are not issued because such 2010 Plan award or Inducement Plan award or any portion thereof is settled in cash; or (c) are forfeited back to or repurchased by the Registrant because of the failure to meet a contingency or condition required for the vesting of such shares ((1) and (2) together, the “Carryover Shares”).

The 2024 Plan contains a “fungible share counting” structure, which increases the rate at which the share reserve is depleted for awards other than stock options and stock appreciation rights in order to minimize stockholder dilution. Specifically, the number of shares of the Registrant’s common stock available for issuance under the 2024 Plan will be reduced by (i) one share for each share issued pursuant to a stock option or stock appreciation right with an exercise price that is at least 100% of the fair market value of the Registrant’s common stock on the date of grant (an “Appreciation Award”), and (ii) 1.49 shares for each share issued pursuant to an award that is not an Appreciation Award. Any shares that return to the share reserve under the 2024 Plan’s share counting provisions will return at the foregoing fungible rate.

**PART II**  
**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 8. Exhibits.**

<u>Exhibit Number</u>	<u>Description</u>
4.1**	<a href="#"><u>Amended and Restated Certificate of Incorporation, as amended (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q, filed August 6, 2015).</u></a>
4.2**	<a href="#"><u>Certificate of Amendment of Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.2 to the Registrant's Annual Report on Form 10-K, filed February 25, 2021).</u></a>
4.3**	<a href="#"><u>Amended and Restated Bylaws (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed September 12, 2013).</u></a>
4.4**	<a href="#"><u>Form of common stock certificate of the Registrant (incorporated by reference to Exhibit 4.1 to Registration Statement No. 333-52492, filed December 21, 2000).</u></a>
5.1*	<a href="#"><u>Opinion of Cooley LLP.</u></a>
23.1**	<a href="#"><u>Consent of Independent Registered Public Accounting Firm (incorporated by reference to Exhibit 23.1 to the Prior Amendments).</u></a>
23.2**	<a href="#"><u>Consent of Cooley LLP (included in Exhibit 5.1).</u></a>
24.1**	<a href="#"><u>Power of Attorney (included on the signature page to the Prior Amendments).</u></a>
99.1**	<a href="#"><u>2010 Equity Incentive Plan, as amended (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-K, filed August 9, 2022).</u></a>
99.2**	<a href="#"><u>Forms of Nonstatutory Stock Option Grant Notice and Stock Option Agreement under Acadia Pharmaceuticals Inc. 2010 Equity Incentive Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed May 9, 2024).</u></a>
99.3**	<a href="#"><u>Forms of Restricted Stock Unit Grant Notice and Restricted Stock Unit Award Agreement under Acadia Pharmaceuticals Inc. 2010 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q, filed May 9, 2024).</u></a>
99.4**	<a href="#"><u>Forms of Performance Stock Unit Grant Notice and Performance Stock Unit Award Agreement under Acadia Pharmaceuticals Inc. 2010 Equity Incentive Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q, filed May 9, 2024).</u></a>
99.5**	<a href="#"><u>Acadia Pharmaceuticals Inc. 2023 Inducement Plan (incorporated by reference to Exhibit 99.1 to Registration Statement No. 333-269611).</u></a>
99.6**	<a href="#"><u>Forms of Stock Option Grant Notice and Stock Option Agreement under Acadia Pharmaceuticals Inc. 2023 Inducement Plan (incorporated by reference to Exhibit 99.2 to Registration Statement No. 333-269611).</u></a>
99.7**	<a href="#"><u>Forms of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under Acadia Pharmaceuticals Inc. 2023 Inducement Plan (incorporated by reference to Exhibit 99.3 to Registration Statement No. 333-269611).</u></a>
99.8**	<a href="#"><u>Acadia Pharmaceuticals Inc. 2024 Equity Incentive Plan (incorporated by reference to Exhibit 99.1 to Registration Statement No. 333-279784).</u></a>
99.9**	<a href="#"><u>Forms of Standard Stock Option Grant Notice and Stock Option Agreement under the Acadia Pharmaceuticals Inc. 2024 Equity Incentive Plan (incorporated by reference to Exhibit 99.2 to Registration Statement No. 333-279784).</u></a>
99.10**	<a href="#"><u>Forms of Standard Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under the Acadia Pharmaceuticals Inc. 2024 Equity Incentive Plan (incorporated by reference to Exhibit 99.3 to Registration Statement No. 333-279784).</u></a>

99.11\*\* [Forms of Director Stock Option Grant Notice and Stock Option Agreement under the Acadia Pharmaceuticals Inc. 2024 Equity Incentive Plan \(incorporated by reference to Exhibit 99.4 to Registration Statement No. 333-279784\).](#)

99.12\*\* [Forms of Director Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under the Acadia Pharmaceuticals Inc. 2024 Equity Incentive Plan \(incorporated by reference to Exhibit 99.5 to Registration Statement No. 333-279784\).](#)

\* Filed herewith.

\*\* Previously filed.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Post-Effective Amendment to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on August 20, 2024.

### ACADIA PHARMACEUTICALS INC.

By: /s/ Stephen R. Davis

Stephen R. Davis  
*Chief Executive Officer*

Pursuant to the requirements of the Securities Act of 1933, as amended, this Post-Effective Amendment has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Stephen R. Davis</u> Stephen R. Davis	Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	August 20, 2024
<u>/s/ Mark C. Schneyer</u> Mark C. Schneyer	Executive Vice President and Chief Financial Officer <i>(Principal Financial Officer)</i>	August 20, 2024
<u>/s/ James K. Kihara</u> James K. Kihara	Vice President, Chief Accounting Officer and Controller <i>(Principal Accounting Officer)</i>	August 20, 2024
<u>*</u> Stephen R. Biggar	Chairman of the Board	August 20, 2024
<u>*</u> Julian C. Baker	Director	August 20, 2024
<u>*</u> Laura A. Brege	Director	August 20, 2024
<u>*</u> James M. Daly	Director	August 20, 2024
<u>*</u> Elizabeth A. Garofalo	Director	August 20, 2024
<u>*</u> Edmund P. Harrigan	Director	August 20, 2024
<u>*</u> Adora Ndu	Director	August 20, 2024
<u>*</u> Daniel B. Soland	Director	August 20, 2024

\* Pursuant to Power of Attorney

By: /s/ Stephen R. Davis

---

Stephen R. Davis  
Attorney-in-fact



Carlos Ramirez  
T: +1 858 550 6157  
cramirez@cooley.com

August 20, 2024

Acadia Pharmaceuticals Inc.  
12830 El Camino Real, Suite 400  
San Diego, CA 92130

**Re: Acadia Pharmaceuticals Inc. – Post-Effective Amendments to Registration Statements on Form S-8**

Ladies and Gentlemen:

We have acted as counsel to Acadia Pharmaceuticals Inc., a Delaware corporation (the “*Company*”), in connection with the filing by the Company with the Securities and Exchange Commission (the “*Commission*”) of (i) a Post-Effective Amendment No. 3 to the Company’s registration statement on Form S-8 (File No. 333-168667), as filed with the Commission on August 9, 2010, and (ii) a Post-Effective Amendment No. 2 to each of the Company’s registration statements on Form S-8 (File Nos. 333-190400, 333-207971, 333-213109, 333-219785, 333-226834, 333-232981, 333-266680 and 333-269611), as filed with the Commission on, August 6, 2013, November 12, 2015, August 12, 2016, August 8, 2017, August 14, 2018, August 2, 2019, August 9, 2022 and February 7, 2023, respectively (such registration statements, collectively, the “*Prior Registration Statements*,” and the post-effective amendment to each of the Prior Registration Statements, collectively, the “*Post-Effective Amendments*”).

The Prior Registration Statements covered the offering of shares of the Company’s common stock, par value \$0.0001 per share (“*Common Stock*”), previously available for issuance under the Acadia Pharmaceuticals Inc. 2023 Inducement Plan (the “*2023 Plan*”) and the Acadia Pharmaceuticals Inc. 2010 Equity Incentive Plan, as amended (together with the 2023 Plan, the “*Prior Plans*”). For purposes of this opinion, the “*Shares*” means up to 31,636,890 shares of Common Stock, which is the sum of 5,122,539 shares of Common Stock that had been available for grants of new awards under the Prior Plans and 26,514,351 shares of Common Stock subject to outstanding stock awards granted under the Prior Plans, that from and after May 29, 2024, may become available for grant under the Acadia Pharmaceuticals Inc. 2024 Equity Incentive Plan (the “*2024 Plan*”) as described in the Post-Effective Amendments.

In connection with this opinion, we have examined and relied upon (a) the Prior Registration Statements, the Post-Effective Amendments and related prospectuses, (b) the Company’s certificate of incorporation and bylaws, each as currently in effect, (c) the Prior Plans, (d) the 2024 Plan, and (e) such other records, documents, opinions, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials and the due authorization, execution and delivery of all documents by all persons other than the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently verified such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

10265 SCIENCE CENTER DRIVE, SAN DIEGO, CA 92121 T: (858) 550-6000 F: (858) 550-6420 WWW.COOLEY.COM



August 20, 2024

Page Two

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the 2024 Plan, the Post-Effective Amendments and related prospectus, will be validly issued, fully paid, and nonassessable (except as to shares issued pursuant to deferred payment arrangements which will be fully paid and nonassessable when such deferred payments are made in full).

This opinion is limited to the matters expressly set forth in this letter, and no opinion has been or should be implied, or may be inferred, beyond the matters expressly stated. This opinion speaks only as to law and facts in effect or existing as of the date hereof and we have no obligation or responsibility to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

We consent to the filing of this opinion as an exhibit to the Post-Effective Amendments. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Commission thereunder.

Very truly yours,

COOLEY LLP

By: /s/ Carlos Ramirez

Carlos Ramirez

10265 SCIENCE CENTER DRIVE, SAN DIEGO, CA 92121 T: (858) 550-6000 F: (858) 550-6420 WWW.COOLEY.COM